PICK'N'KICK

TEAM MEMBERS & ROLES:

- Rahul Mehan: Project Manager
- Yuan Peixin: Designer
- Yamini Venkataraman: Writer
- Sarah Wai: User Researcher

The *assignments to date* have been interviewing our target group (UW students), designing the User Interface (UI), determining tasks, storyboarding, scenario writing, and overall report writing.
All team members interviewed students and contributed equally to the data collected through contextual inquiry. The remaining assignments and the structure of the final report were completed at group meetings, with all members contributing equally. For the purpose of this report, writing was done by Yamini and Rahul, by choice.

DESIGN PROBLEM & SOLUTION :

Background*:* "What courses should I take this quarter ?" This is a critical decision required of every student before every quarter, and our overall aim is to help students make this decision.
There are several factors that go into making this decision, and one important factor is the overall course load during a quarter, which can have a significant effect on a student's GPA. Course load refers to the effort needed to get a desired GPA in a course. Course load clearly does have a subjective and qualitative component. Our *design goal* is to provide quantifiable information to the student for evaluating course load, based on the mean data collected from a range of past students.

Solution: Design an application that would broadly
(i) provide a broad spectrum of details about a course, based on the results of contextual inquiry.
(ii) calculate the number of hours per week needed to achieve a particular goal.
(iii) enable a student to track progress on a course on a weekly basis, to help determine if the target GPA would be achieved.

Design Boundaries: This mobile application is intended to be along the lines of *www.ratemyprofessor.com*, but going several notches ahead and providing much more information about a course. However, this is not a registration application. Students cannot register for courses through it. This application is designed to help students plan balance schedules and manage their studying time effectively. Also, our application will provide the number of hours an average student spends studying to get a certain grade, but it is not guaranteed that any user will get the same grade after

studying for a certain hours per week.

CONTEXTUAL INQUIRY PARTICIPANTS:

Rationale behind choice: This application targets college level students and we interviewed **12** students in total. First, in order to avoid biases, we chose to interview students outside of this course. We also excluded ourselves from being interviewed (we really believe this app is needed!). All students interviewed are from UW, for two reasons. UW has a large student population with multiple majors, and provides participants who are sufficient, given the constraints of this course. The current model based on UW can be adapted to any university, and to the semester system too. For this reason, one transfer student was removed from the participant group. Second, we interviewed undergraduates, since graduate students typically use their discretion in selecting courses. Third, the students interviewed were from a range of majors (i.e. physics, math, linguistics, communication, EE,CS/math double major), since our app is intended for all majors. Fourth, students from all four years (freshmen, sophomores, juniors and seniors) were interviewed. This was to determine which group(s) would benefit most from the app, and tailor our design for that group. Finally, both male and female students were interviewed to avoid any gender biases.

Number of participants in each year (12 in total):
Freshmen: 2
Sophomores: 4
Juniors: 3
Seniors: 3

Interview Details: All interviews were conducted in typical student environments such as the library, the HUB, red square stairs, and in residence areas. This was so that students could be observed in their natural environments.

Freshmen - We interviewed two freshman in their first quarter and several of the questions were not applicable to them, because they did not have a GPA yet. We received two different types of responses from our participants. One of the participants' body language made it clear that course selection was not appreciated as an important issue yet, while the other participant was really interested in getting that data from other students. That participant said - "having that data will help me balance my schedule". One of the main reasons we have a wide variance in our data is because most of the freshmen are not experienced with making schedules. We think that their opinion may change once they complete one or two quarters.

Sophomores - We interviewed 4 sophomores across science, engineering, and art majors. As the

"apprentice," we had to do minimal explaining of this app to this group, since they immediately grasped the implications and were eager to contribute. We also observed that this group had a lot of inputs in terms of what was required of the app, and were ready to talk about their experiences. This was our ideal group of participants because every one of them said that they would use this mobile application if it existed. One of the the reasons why this group may have liked our idea more than other groups is because sophomores are on their way to finish up pre-requisites for their prospective departments. Since most of the UW departments are competitive, sophomores want to get good grades so they can get into their majors.

Juniors - Three juniors were interviewed. Mostly, the students were interested in the idea. Because they all had declared majors, they all mentioned that required classes were the most important, but the app would be useful to make a balanced schedule, since major classes become more complex as they take more of them. However, a theme in their responses was that student feedback could be misleading. Two of them came to the conclusion that the app would be good for preparing for what to expect but not for exact process of working through the quarter. They also agreed that advisor or teacher recommendations would be taken more seriously compared to student recommendations. Their body language indicated that they were interested in the project, and were rather eager to see software in the future that would help with balancing workload for busy students.

Seniors - Three seniors were interviewed and their responses are discussed here. The focus of all seniors was graduation and completing their degree requirements. Seniors were very clear clear in terms of what they wished the app to do, and didn't require any prompting or explanations from us regarding the usefulness of the app. They also spoke at length and readily about their experiences.All seniors agreed that course selection affected performance, however they differed on the information that was needed in order to select courses. While 2 seniors favored user feedback, one senior in math strongly preferred to get syllabi and tests to make self-judgements.
As a side note, interesting contrasts were found between seniors and freshmen in their attitude and response patterns. Freshmen frequently answered in single, short sentences. They also required explanations regarding why this app might be useful, while seniors immediately grasped the implications of the app and its potential usefulness to students.

CONTEXTUAL INQUIRY RESULTS: THEMES BASED ON INTERVIEWS

First quarter freshmen are not a primary target group: First quarter freshmen were divided in their responses regarding whether the app would be useful to them. Even those students interested in the app did not consider course selection to be an issue, and primarily chose courses based on advisor recommendations. They also were unable to evaluate or connect their current performance with course load. Hence, we decided that freshmen who had completed one quarter would be a more appropriate

user group, who were similar to sophomores and juniors.

Sophomores and juniors appreciate help with course selection: This group as a whole was different from first quarter freshmen in that sophomores and juniors recognized the importance of having a balanced course load and its relation to their performance and GPA. Seniors also recognized this, but were more concerned with completing their degree requirements. Hence, our app is most applicable for sophomores and juniors, and our design reflects their needs.

Sophomores and juniors value peer feedback: The feedback of peers (friends and other students) was important to sophomores and juniors in deciding about a particular course. Many students also listed *www.ratemyprofessor.com* as an important source of information, which also is intended to help in course selection, similar to our app. This shows that an app such as ours does have a strong potential user base in this group.

Self-judgement is also important: One surprising interview was with a senior female student in math who said that she would not rely on judging course difficulty based on other students' feedback, and prefers to make her own judgement. Another sophomore also said that different students have different goals, and hence the usefulness of a app based only on student feedback would be limited to her. It is interesting but not clear from our sample size whether there is a gender bias to this issue, but we decided to address this issue since 2 participants indicated this directly, and others suggested that self-judgement features are also important. Hence, our design also provides basic details such as syllabi, exams and tests (when available) so that students can also self-judge the effort needed for a course.

NEW AND EXISTING TASKS:

Existing tasks: Based on contextual inquiry, students currently decide on courses based on a number of factors. Our primary target group are sophomore/junior students, who use (direct) feedback from other students, and *www.ratemyprofessor.com* (indirect feedback from students). One group of students evaluated course difficulty using their own judgement, based on course description and syllabus. This group however often said that they would also like to see past tests and exams, and mentioned that student feedback would also be helpful (although not the deciding factor). Hence, there is clearly a need for an app that will provide students with details about a course such as past exams (if available) and syllabi, as well as provide quantifiable data about the performance of past students and relate it with the studying effort put in. The app also nicely complements the information provided about a course professor in *www.ratemyprofessor.com*, by giving information about the course itself.

New tasks: The immediate function of the app is to provide statistics about the performance and effort of past students in a course. So the student must be able to find courses easily, and additionally get information about results from specific professors if multiple professors have taught the course. This

information must also include the average student profile who contributed to the data (number, major etc) to give a complete picture.

Students can create a mock schedule on the app to keep track of added and deleted courses (this will involve an edit feature). We also thought that an excellent way to get data from our users would be to include a track progress option, where students input their current number of hours spent studying. The incentive for the student is that the app could send periodic notifications on the level of progress.

After discussing about the potential tasks a user will do on our application and complexity level of each of them, we came up with the couple of tasks. For the sake of this report, we are report three tasks - Easy, moderate and hard.

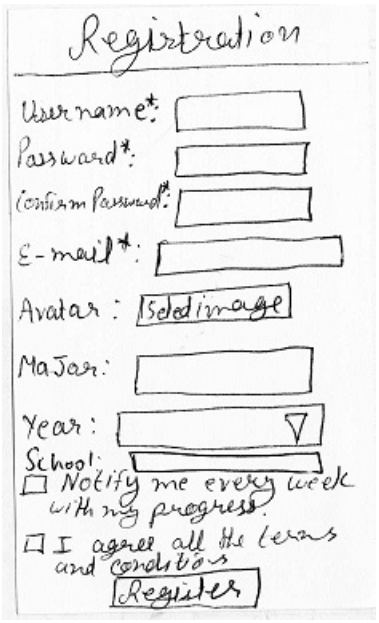
Easy Task: The first task is to do a quick search for a class, find out how many hours a student should spend studying to achieve his/her target GPA and how many other users (who have already taken the class in the past) have contributed to the data (i.e. the average numbers of hours/week required to attain a GPA). This task can be completed on a single screen where one can search for a class.

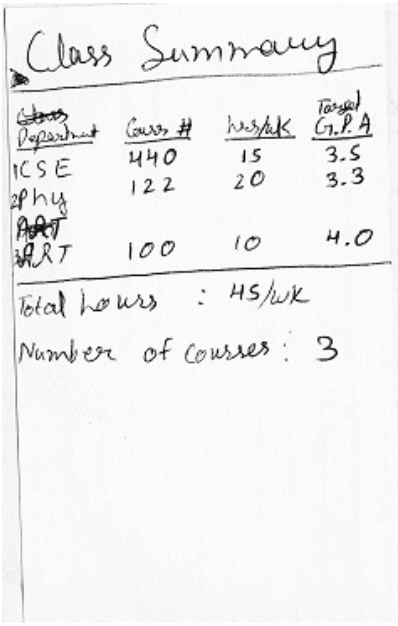
Moderate Task: The second task is to use one of the core features of the application. In this task, the student will check his/her progress in a class over the course of two weeks. He/she then decides to drop that class because he/she isn't keeping up all of the work required to succeed in that class.

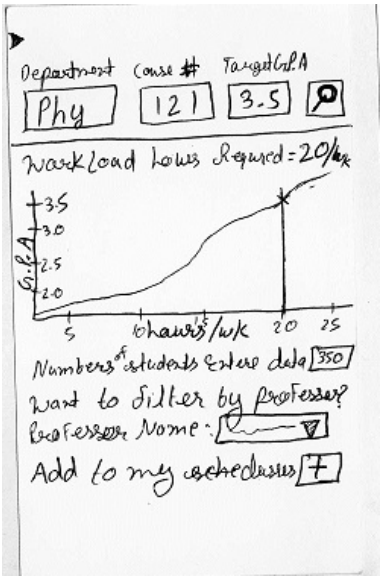
Hard Task: The third and last task is to create a schedule for a quarter. This task is a complex because it requires searching for three to four classes using the quick search feature, and then adding them to the schedule. Depending on the amount of effort hours a student wants, he/she can edit the schedule to meet the goals.

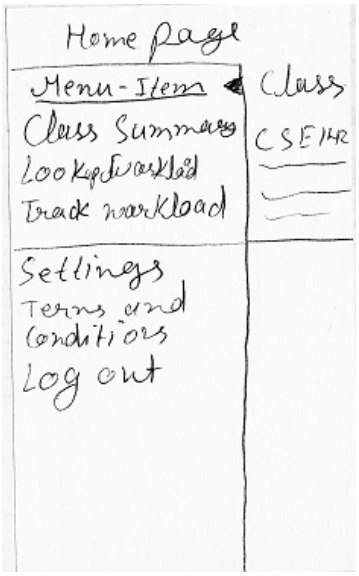
DESIGN SKETCHES

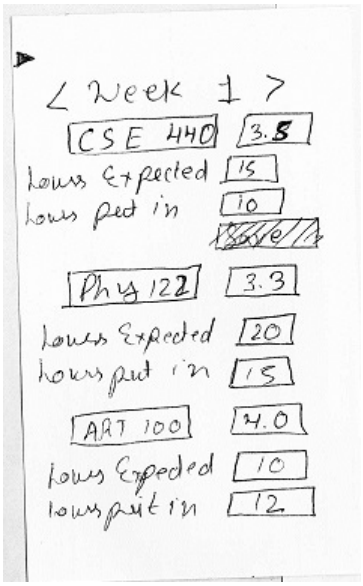
DESIGN 1:











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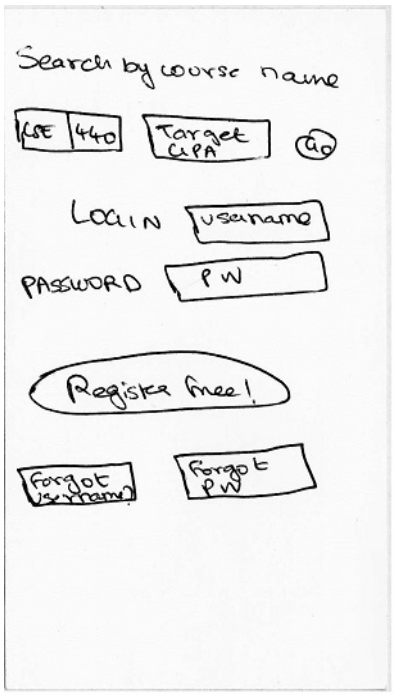
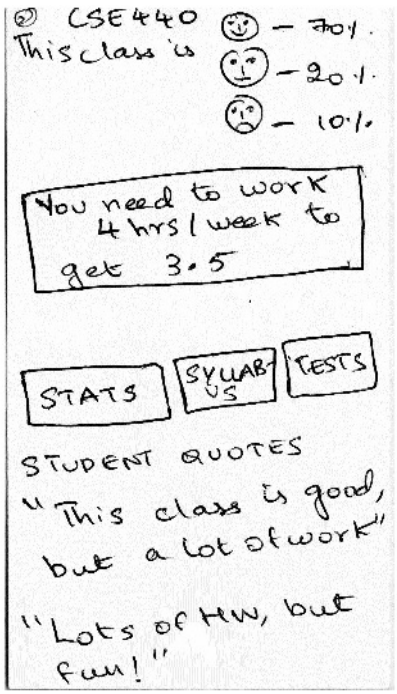
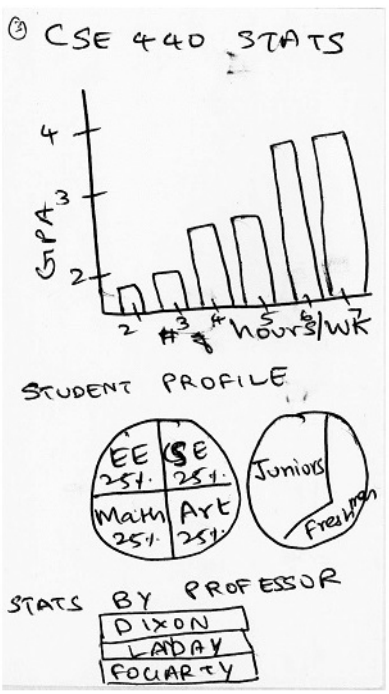
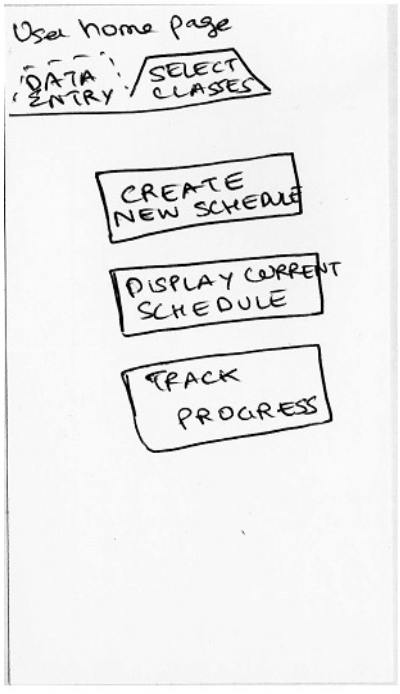
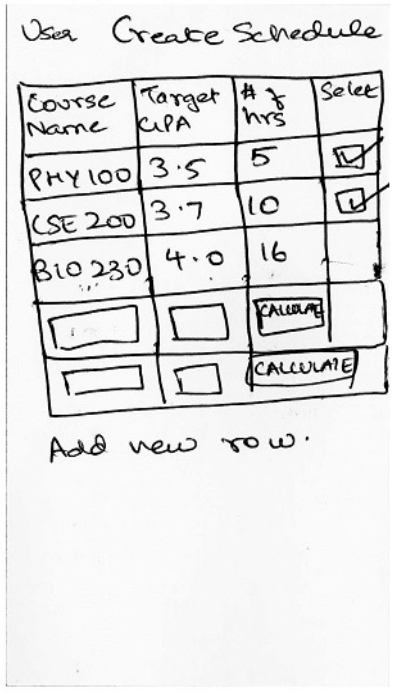
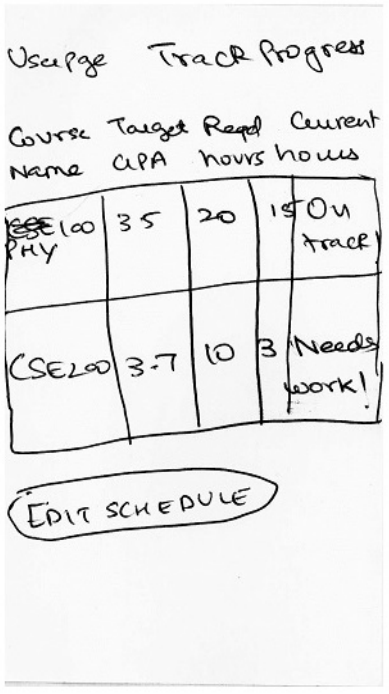

Search by course name
CSE 440
Target GPA
GO
LOGIN
username
PASSWORD
PW
Register free!
Forgot username
Forgot PW


CSE 440
This class is
70%
20%
10%
You need to work 4 hrs/week to get 3.5
STATS
SYLLABUS
TESTS
STUDENT QUOTES
"This class is good, but a lot of work"
"Lots of HW, but fun!"

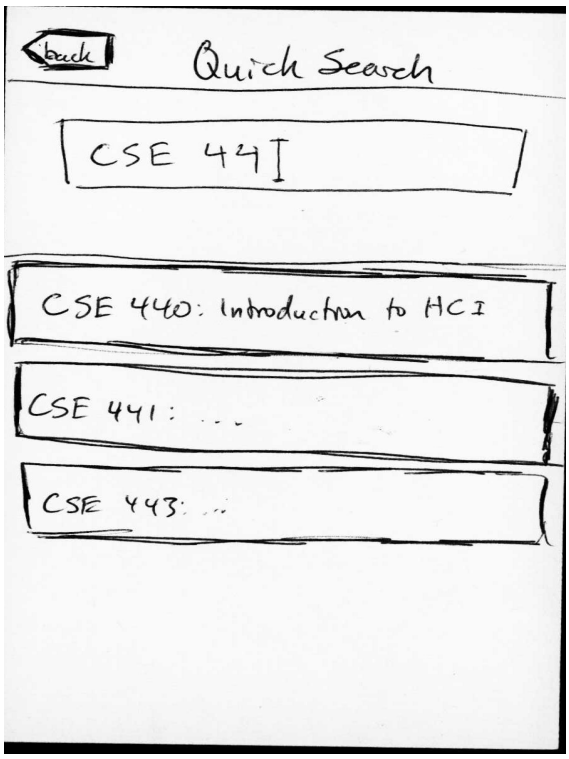

CSE 440 STATS
GPA
4
3
2
2
3
4
5
6
7
hours/WK
STUDENT PROFILE
EE 25%
CSE 25%
Math 25%
Art 25%
Juniors
Freshmen
STATS BY PROFESSOR
DIXON
LADAY
FOGARTY


User home page
DATA ENTRY
SELECT CLASSES
CREATE NEW SCHEDULE
DISPLAY CURRENT SCHEDULE
TRACK PROGRESS


User Create Schedule
Course Name
Target GPA
# of hrs
Select
PHY 100
3.5
5
CSE 200
3.7
10
BIO 230
4.0
16
CALCULATE
CALCULATE
Add new row.


User page Track Progress
Course Name
Target GPA
Req'd hours
Current hours
PHY 100
3.5
20
15
On track
CSE 200
3.7
10
3
Needs work!
EDIT SCHEDULE

DESIGN 3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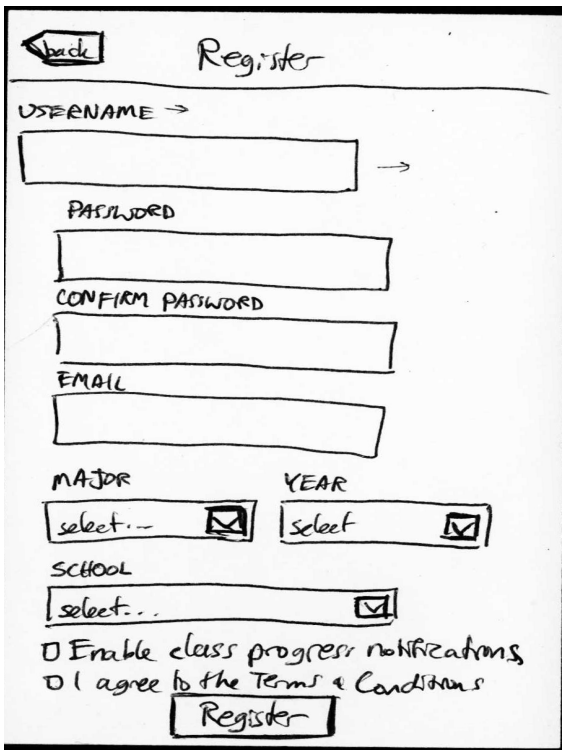
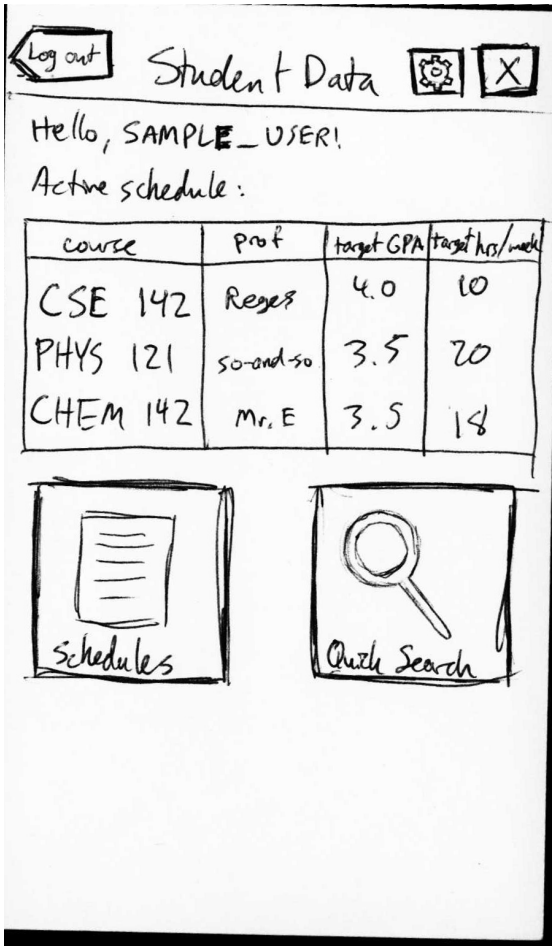
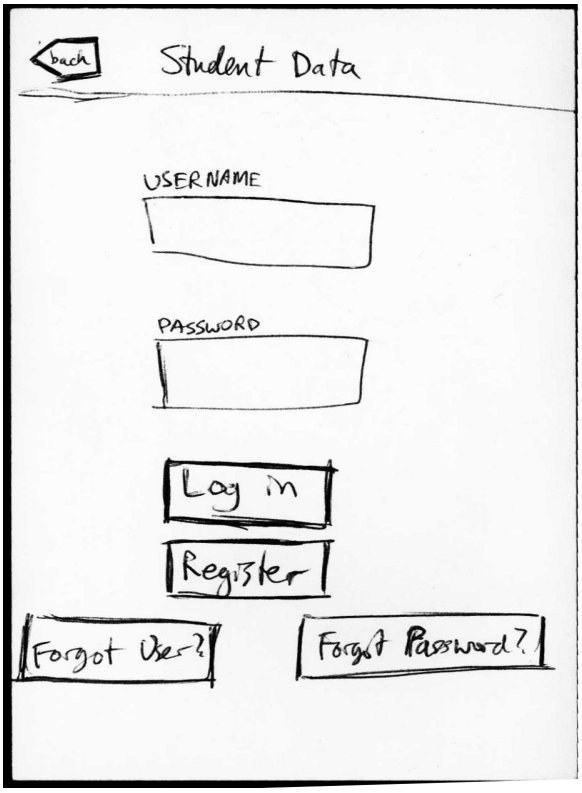
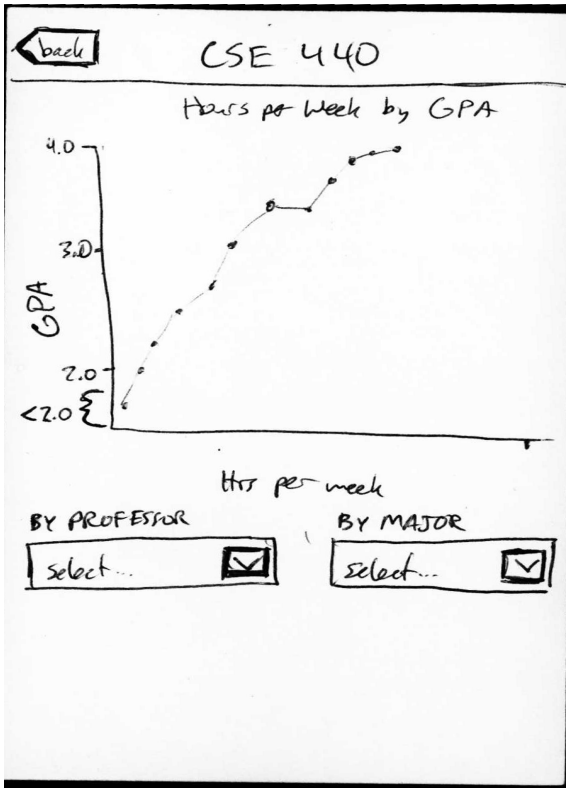
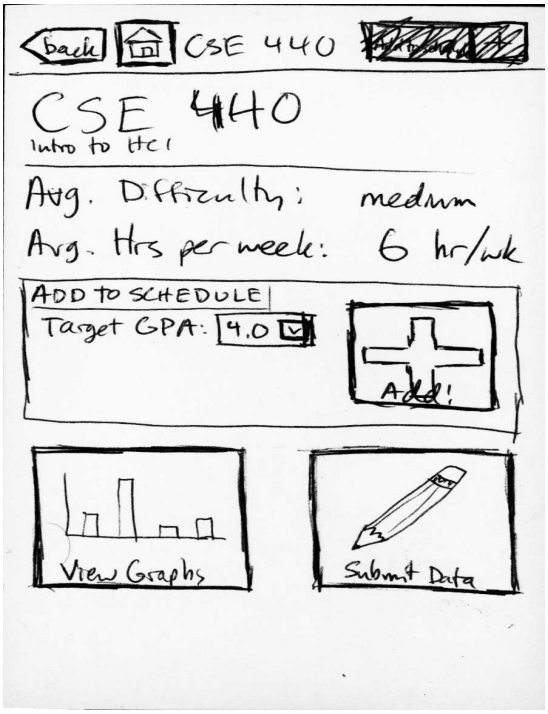
Quick Search
CSE 441
CSE 440: Introduction to HCI
CSE 441: ...
CSE 443: ...


back
Register
USERNAME
PASSWORD
CONFIRM PASSWORD
EMAIL
MAJOR
select...
YEAR
select
SCHOOL
select...
Enable class progress notifications
I agree to the Terms & Conditions
Register


Log out
Student Data
X
Hello, SAMPLE_USER!
Active schedule:
course
prof
target GPA
target hrs/week
CSE 142
Reges
4.0
10
PHYS 121
so-and-so
3.5
20
CHEM 142
Mr. E
3.5
18
Schedules
Quick Search


back
Student Data
USERNAME
PASSWORD
Log in
Register
Forgot User?
Forgot Password?


back
CSE 440
Hours per Week by GPA
4.0
3.0
2.0
<2.0
GPA
Hrs per week
BY PROFESSOR
select...
BY MAJOR
select...


back
CSE 440
CSE 440
Intro to HCI
Avg. Difficulty: medium
Avg. Hrs per week: 6 hr/wk
ADD TO SCHEDULE
Target GPA: 4.0
Add!
View Graphs
Submit Data